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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/605,443	09/30/2003	Stephen H. Voldman	BUR920030076US1	2442

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HOFFMAN WARNICK & D'ALESSANDRO, LLC  
3 E-COMM SQUARE  
ALBANY, NY 12207

EXAMINER
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SIEK, VUTHE

ART UNIT	PAPER NUMBER
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2825

DATE MAILED: 04/15/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

H.A

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/605,443	VOLDMAN, STEPHEN H.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Vuthe Siek	2825	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 30 September 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3-8,10-15 and 17-20 is/are rejected.
- 7) ☒ Claim(s) 2,9 and 16 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |                                                                                         |                                                                             |
|-----------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)             | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____                                                |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____                                                             | 6) <input type="checkbox"/> Other: _____                                    |

### **DETAILED ACTION**

1. This office action is in response to application 10/605,443 filed on 9/30/2003. Claims 1-20 remain pending in the application.

#### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1, 3-8, 10-15 and 17-20 are rejected under 35 U.S.C. 102(b) as being anticipated by Ramaswamy et al. (6,553,542).
4. As to claims 1, 8 and 15, Ramaswamy et al. teach a method and system comprising an input data generator, a device extractor and output generator. The method and system extract parasitic devices and components affecting latch-ups (injector source, collector circuit), where the extracted components have parameters (geometries of components and relevant geometries of extracted components); analyzing the circuit design layout for latch-up sensitivity following a set of rules or guidelines (latch-up criteria for the collector circuit) to collect lists of latch-up sensitive elements (injector source, collector circuit, spacing parameters, geometries of latch-up sensitive elements) (summary, col. 5-8, Fig. 1-8 and its description). Ramaswamy et al. teach the device extractor system can automatically analyze designs in order to identify structures sensitive to latch-up and thus offer a designer a change to improve questionable design structures while corrections are still easy and inexpensive (col. 5, lines 35-40). The corrections include various modifications in order to satisfy different selections of product geometries, processes,

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and characteristics (summary). These teachings suggest the claiming of modifying the parameter to adjust the latch-up sensitivity of the collector circuit and determining the latch-up sensitivity of the collector circuit based on the latch-up criteria and the modified parameter because the geometries of latch-up sensitive elements (injector source, collector circuit, spacing parameters, relevant geometries) would have been modified to avoid latch-up to occur before any actual semiconductor ICs are fabricated.

5. As to claims 3-7, 10-14 and 17-20, Ramaswamy et al. teach the parameter as at least one a physical (geometries), structural and spatial parameter (spacing parameter) (col. 5-6); a system including input generator, device extractor and output generator to identify parameters (Fig. 1-3 and 6); modifying the parameter with a graphical user interface (output results by a layout tool) (col. 5); modifying the physical size of the injector source (geometries of extracted devices of latch-up sensitive elements and relevant geometries of latch-up sensitive elements); identifying the parameter through at least one parameterized cell (geometries and relevant geometries of latch-up sensitive elements including source and collector elements) (col. 5-8).

*Allowable Subject Matter*

6. Claims 2, 9 and 16 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The prior art of record does not teach or fairly suggest identifying the injector source as a source that unintentionally activates the collector circuit, resulting in latch-up of the collector circuit.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Vuthe Siek whose telephone number is (571) 272-1906. The examiner can normally be reached on Increase Flextime.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew Smith can be reached on (571) 272-1907. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Vuthe Siek

  
VUTHE SIEK  
PRIMARY EXAMINER